

REMARKS

Claims 1 – 12 are pending and under consideration in the above-identified application. In the Office Action, Claims 1 – 10 were rejected, and Claims 11 and 12 were objected to.

In this Amendment, Claims 1, 2, 5, 6 and 12 are amended. No new matter has been introduced as a result of this amendment.

Accordingly, Claims 1 – 12 remain at issue.

I. Objection to Claims

Claims 2 and 6 are objected to for informalities and insufficient antecedent basis, respectively. Applicants have made the appropriate correction and request that these claim objections be withdrawn.

II. 35 U.S.C. § 103 Obviousness Rejection of Claims 1 – 5 and 7 - 9

Claims 1-5 and 7- 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yano (JP Patent No. 2002-328460 - U.S. Patent No. 6,910,772 is being used as a translation thereof) in view of Yamagishi (U.S. Patent No. 5,777,695). Applicants respectfully traverse this rejection.

Claim 1 is directed to an image display device. The image display device comprises a spheroidal reflecting mirror, a light source, a polarization changing element, a reflection type polarization selecting element, a first fly-eye integrator, a second fly-eye integrator, a reflection type spatial light modulating element, a light selecting element, a reflector, and a projection optical system.

Claim 1 recites that the reflection type polarization selecting element and reflector are disposed inside a minimum circle of confusion defined by light emitted from the light source and condensed by the spheroidal reflecting mirror to near the second focal point.

The Examiner acknowledges that Yano fails to teach or suggest a reflection type polarization selecting element and a reflector are disposed inside a minimum circle of confusion

defined by light emitted from the light source and condensed by the spheroidal reflecting mirror to near the second focal point, but states that Yamagishi does. Applicants respectfully disagree.

Yamagishi states that:

“in FIG. 1, the light emitted from the light source 1 is condensed in a second focal point position 5 by the elliptical mirror 4 formed to be rotationally symmetrical to the major axis of a first optical axis 3. A polarization beam splitter 6 is provided as a polarization selecting means at the second focal point position 5 of the elliptical mirror 4. The polarization beam splitter 6 reflects the S-polarized light, and the reflected S-polarized light travels onto a second optical axis 7.”

See column 7, lines 57 – 65. Yamagishi further states that:

“The combined reflector 13 forms an aperture 11 in the central part, and the polarization beam splitter 6 is positioned in the aperture 11. The peripheral part of the combined reflector 13 is a reflection plane 12, and on this reflection plane 12 the light entering from the collimator lens 8 is reflected on the second optical axis 7. In this way, according to the embodiment, almost all the light emitted from the light source is sent out in one direction as light in one direction of polarization.”

See column 8, lines 23 – 32.

The Examiner advances that in Yamagishi both the reflection type polarization selecting element 6 and reflector 12 are disposed inside a minimum circle of confusion defined by light emitted from the light source 2 and condensed by the spheroidal reflecting mirror 4 to near the second focal point 5 by pointing to their respective locations in FIG. 1. However, Applicants respectfully remark that the reflector 12 of Yamagishi is not disposed inside the minimum circle of confusion located near the second focal point 5.

As one of ordinary skill in the art knows, all lenses contain a certain amount of spherical aberration and astigmatism. That is, lenses can not perfectly converge rays from a subject point to form a true image point (i.e., an infinitely small dot with zero area). In other words, images are formed from a composite of dots (not points) having each a certain area, or size. Since the image becomes less sharp as the size of these dots increases, the dots are called "circles of confusion." Thus, one way of indicating the quality of a lens is by the smallest dot it can form, or its "minimum circle of confusion." Moreover, the maximum allowable dot size in an image is called the "permissible circle of confusion."

As shown in FIGs 1 and 2, the reflector 12 does not intersect the light cone defined by the light rays reflected and condensed by the spheroidal reflecting mirror 4 on or near the

polarization beam splitter 6. As such, the reflector 12 of Yamagishi is not disposed inside the minimum circle of confusion of Yamagishi located at or near the second focal point 5. Thus, Yamagishi fails to teach or suggest a reflection type polarization selecting element and a reflector disposed inside a minimum circle of confusion defined by light emitted from the light source and condensed by the spheroidal reflecting mirror to near the second focal point.

Accordingly, Claim 1 is patentable over the cited references, taken singly or in combination with each other, as are dependent Claims 2 – 5 and 7 – 9 for at least the same reasons.

III. 35 U.S.C. § 103 Obviousness Rejection of Claim 6

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yano (JP Patent No. 2002-328460 - U.S. Patent No. 6,910,772 is being used as a translation thereof) in view of Yamagishi (U.S. Patent No. 5,777,695) and in further view of Lee (U.S. Patent Publication No. 2002/0085179). Applicants respectfully traverse this rejection.

Claim 6 is directly dependent on Claim 5 and indirectly on Claim 1, both shown above to be patentable over Yano in view of Yamagishi.

Moreover, in addition to Yano and Yamagishi Lee also fails to fairly teach or suggest that the reflection type polarization selecting element and reflector are disposed inside a minimum circle of confusion defined by light emitted from the light source and condensed by the spheroidal reflecting mirror to near the second focal point.

Thus, no combination of the cited references fairly teaches or suggests the subject matter of Claim 6. Accordingly, Claim 6 is patentable over the cited references, taken singly or in any combination with each other

Accordingly, Applicants respectfully request that these claim rejections under 35 U.S.C 103(a) be withdrawn.

IV. 35 U.S.C. § 103 Obviousness Rejection of Claim 10

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yano (JP Patent No. 2002-328460 - U.S. Patent No. 6,910,772 is being used as a translation thereof) in

view of Yamagishi (U.S. Patent No. 5,777,695) and further in view of Fujimori et al. (U.S. Patent No. 6,631,039). Applicants respectfully traverse this rejection.

Claim 10 is indirectly on Claim 1, shown above to be patentable over Yano in view of Yamagishi.

Moreover, in addition to Yano and Yamagishi Fujimori also fails to fairly teach or suggest that the reflection type polarization selecting element and reflector are disposed inside a minimum circle of confusion defined by light emitted from the light source and condensed by the spheroidal reflecting mirror to near the second focal point.

Thus, no combination of the cited references fairly teaches or suggests the subject matter of Claim 10. Accordingly, Claim 10 is patentable over the cited references, taken singly or in any combination with each other

Accordingly, Applicants respectfully request that these claim rejections under 35 U.S.C 103(a) be withdrawn.

V. Conclusion

In view of the above amendments and remarks, Applicant submits that Claims 1 – 12 are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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